and straps should be such that the maximum pressure does not exceed 100 to 120 Ib. per square inch with a load on the eccentric rod, which is taken as the area of the whole face of the low-pressure slide valve X 30 Ib. per square inch X 0*2. The factor 0-2 is the value of the coefficient of friction. The bending stress, due to the above-mentioned load, should be calculated for one or two sections of the strap, and its radial thickness should be such that the stresses are kept low to prevent the strap closing in upon the pulley on the downward travel of the valve, which would cause the eccentric to run hot. The foot of the eccentric rod is secured to the top half strap by studs, the diameter at the bottom of the thread being based upon the steam load on the low-pressure valve, allowing a stress of 4500 to 5000 Ib. per square inch. The studs holding the two parts of the pulley together may

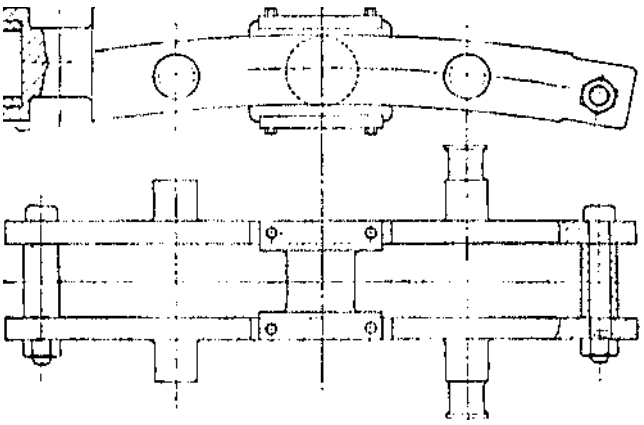

Fig. 32.--Bar Expansion-link

be a little larger in diameter to allow for occasional rough usage, and the bolts which hold the two halves of the straps together may on account of their length be also slightly larger in diameter.

The bar expansion link, fig. 32, is the type almost invariably adopted. Two bars or quadrants are used, each having two gudgeons forged on, one for the ahead eccentric rod, and the other for the astern rod. The ends of the eccentric rod are, of course, forked and provided with bearings to take the corresponding gudgeons on each quadrant. The distance apart of the two gudgeons is usually 6 times the throw or radius

of eccentric,
Between the quadrants is placed the saddle block through which the quadrant bars slide, the brass liners for the working faces being fixed in the jaws of the saddle blocks. The length of the working face is usually about equal to half the distance between the gudgeon centre lines. The pressure on the face should be from 300 to 350 Ib. per square inch
In computing the stresses on the quadrants due to the force required to drive the valves, the bars are treated as beams loaded at the middle and supported at the ends. The bar is bent alternately in both directions, and therefore, in order to secure stiffness also, the stress allowed is not more